# Application Guide
# for
# MasterTop® Metallic Topping

## MasterTop® 330

**MasterTop 330** is a heavy duty metallic topping for:-

- Areas subject to heavy traffic, impact, abrasion and continuous wear
- Loading docks
- Waste transfer facilities
- Truck or heavy equipment repair areas

*Note:*

- *Do not add cement, aggregate or admixtures*
- *Store in a dry place*
- *Do not use if bag is damaged*

## Estimating Data

One 20kg bag mixed with 2.0 litres of potable water provides approximately 0.0062m³ (6.2L); of screedable topping at a 150mm slump.

## Mixing

Using a barrel mixer, add ¾ of the mixing water followed by the **MasterTop 330** in a slow, steady stream, then mix for approximately two to three minutes. Add remaining water and continue mixing for a total of five minutes, for a homogenous mix at the recommended slump.

In hot weather the use of cold water (5-10°C) will reduce the amount of water necessary for a given consistency, and will result in increased working time and strength of the topping. Do not use water in an amount or at a temperature that will cause bleeding or segregation.

Discharge the topping from the mixer for immediate placing and screeding. If lumps are present, remove.

## Placing

To achieve proper bond of **MasterTop 330** the surface of the concrete should show a 5mm amplitude such as ICRI CSP 8 or greater. All laitance and contaminated areas must be removed; coarse stone and the aggregates shall be exposed. This is best achieved by multiple passes with a shot blast machine with heavy shot, a scabbler or scarifier. The concrete surface should be tested for tensile bond pull off strengths. The minimum tensile bond pull off strength shall not be less than 2.0MPa and substantial coarse aggregate fracture shall be revealed. The test must be performed in several locations on each slab section scheduled for placement of **MasterTop 330**. The temperature of the contact surfaces should be such that the bonding material can be applied and cured as per BASF Construction Chemicals recommendations.

## Treatment of the perimeter of the pour

Fasteners should be staggered 100mm to 150mm from the edge (black Lines), 300mm to 450mm on centre (Red Lines), as shown in Diagram 1. The anchors shall be tested for solid embedment.

Pins must be substantial enough to withstand the action of the screed and the jitterbug and the height should be 10mm less than the final floor thickness.

White lines show centre line of pins to be added if slab width is greater than 1 meter or in the slab exceeds an aspect ratio of 2:1 (length to width). A number of lines of pins are required if the slab is longer than 4 meters (centre pins should be at 1.5 to 2 metre centres).

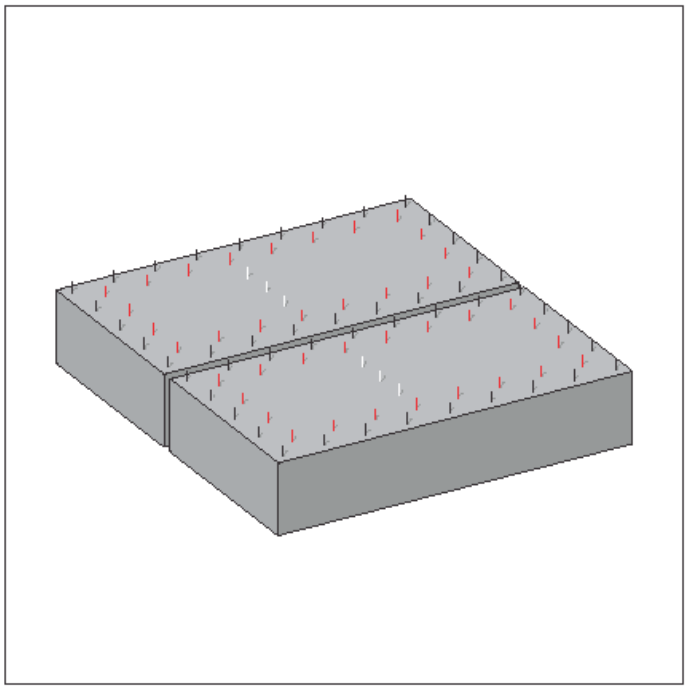

Figure 1 - Arrangement of pins on a large slab showing two outer lines and a centre separator line for a long section

Figure 2 - Long thin section showing extra rows of center pins

**MasterEmaco 2525** liquid epoxy bonding agent shall be used to bond the topping to the existing concrete. Mix according to label instructions and brush or roll on to the concrete surface. Place the topping while the epoxy is still tacky. If the epoxy dries out then reapply as cured epoxy will not bond to the **MasterTop 330**. Do not apply to standing water.

**Placing and Finishing**

Place and screed the **MasterTop 330** in sections that will assure that the finished elevation is maintained. Because of the relatively high slump of **MasterTop 330**, a roller or pipe screed is the preferred method for obtaining a uniformly flat, dense surface without excessive segregation from vibration. Tamp the topping thoroughly with a jitterbug to consolidate and ensure contact with the bonding surface.

*Note: Under rapid drying or hot, ambient conditions, MasterKure 111 evaporation retardant should be sprayed from a garden sprayer, according to label instructions, to prevent rapid moisture loss from the MasterTop 330.*

Figure 3 - One version of a Jitterbug

As soon as the **MasterTop 330** will support an operator and machine without leaving impressions on the slab or creating excessive fines at the surface, float with a mechanical trowelling machine equipped with float shoes. For small areas, floating with hand tools is acceptable.

Following one machine floating, proceed with one or two normal trowelling operations to obtain a hard steel trowel finish. Trowelling operations should be timed and blade angle adjusted to avoid blistering. Periodically measure the topping thickness, especially in the centre of the slab.

### Joints

Joints and proper joint spacing is necessary to limit the cracking tendencies of the product due to shrinkage (contraction joints), movement between the floor and other structural members (isolation joints) and concluding pours from one day to another (construction joints). Procedures for base slab joint location, spacing, depth etc. should be discussed with BASF Construction Chemicals personnel. Maximum joint spacing should not exceed 6m. Base slab joints must be reflected through the **MasterTop 330** topping by forming or other suitable means.

*Note:*

*For MasterTop 330 placement on existing slabs when joint spacing exceeds 6m, intermediary joints must utilise anchors. Termination for end of day sections should be pre-determined and a set of anchors installed in the slab before commencing work. The following day's installation should be delineated in the same way as the slab and the area surrounded by two lines of pins.*

### Curing

Moist curing is necessary to attain the design strength, surface impermeability and wear resistance of the **MasterTop 330**. After finishing is complete and when the surface will not be marred by foot traffic, continuous mist or fog spray the surface of the topping with water and cover with weighted polyethylene sheeting for a minimum of 7 days. When mist spraying is not possible use soaker hoses with two layers of saturated burlap or similar type material and cover with polyethylene for a minimum of 7 days.

After 7 days of wet curing, and while the **MasterTop 330** is still moist, remove excess water with a squeegee. Immediately apply two coats of **MasterKure 404** in cross directions using a short nap roller. The use of a roller will ensure complete coverage of the **MasterTop 330**. Do not spray curing compound and do not allow the **MasterTop 330** to dry out prior to the application of the curing, because good application of curing compound is essential for future performance of **MasterTop 330**.

### Supplemental information on MasterTop 330

During raised trowelling, if any blistering occurs, flatten trowel blades immediately to remove blisters. Wait until raised trowelling does not produce blisters.

Because **MasterTop 330** contains iron aggregate it is an excellent conductor of both hot and cold temperatures. It can vary in dimension much more quickly than the underlying concrete thus causing potential bond failure. For these reasons, including freeze-thaw and potential oxidation of the aggregate, special care should be taken for **MasterTop 330** use outdoors. Special precautions must be taken to mitigate these environmental conditions such as extra pinning, anchor grooves or other means depending on the situation.

### Caution

**MasterTop 330** contains Portland cement, which in combination with water may cause skin irritation, rash and alkali burns. Do not wear contact lenses when working with this product. Remove clothing and wash before reuse. Keep product out of the reach of children.

For information on personnel protective equipment, first aid and emergency procedures, and water disposal methods, refer to the product bag or Safety Data Sheet (SDS).

Figure 4 - Well scabbled surface CSP 8 or 9

Figure 5 - Installing the pins

Figure 6 - Set out of section dividers that serve as screed levels and dividers

Figure 7 - Sturdy and level dividers

Figure 8 - Applying the MasterEmaco 2525 epoxy bonding agent just in front of the application of the MasterTop 330

Figure 9 - Using a jitterbug made from a grate to compress and consolidate the MasterTop 330

Figure 10 - Mixing station close to the application and multiple mixers to continuously apply

Figure 11 - Applying a broom finish

Figure 12 - Curing with wet hessian



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